

KEYU ZHANG

CONTACT INFORMATION

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EDUCATION

Tsinghua University Sep 2021 ~ June 2026
Ph.D. in Statistics, with Distinction
Advisor: Prof. Zongxia Liang,
Research area: Stochastic Control and Optimization, Mean Field Game

Shandong University Sep 2017 ~ June 2021
B.S. in Mathematics and Applied Mathematics

PROFESSIONAL EXPERIENCE

The Hong Kong Polytechnic University July 2024 ~ July 2025
Research Assistant
Supervisor: Xiang Yu

The Hong Kong Polytechnic University July 2026 ~ present
Postdoctoral Fellow
Supervisor: Xiang Yu

PUBLICATIONS AND WORKING PAPERS

All authors are sorted in alphabetical order:

- Zongxia Liang and **Keyu Zhang**. Time-inconsistent mean field and n-agent games under relative performance criteria. *SIAM Journal on Financial Mathematics*, 15(4): 1047-1082, 2024.
- Zongxia Liang and **Keyu Zhang**. A mean field game approach to relative investment-consumption games with habit formation. *Mathematics and Financial Economics*, 18: 577-622, 2024.
- Zongxia Liang, Xiang Yu and **Keyu Zhang**. On time-inconsistent extended mean-field control problems with common noise. *Mathematics of Operations Research*, forthcoming, 2026. (arXiv: 2409.07219)
- Xiang Yu, Jiacheng Zhang, **Keyu Zhang** and Zhou Zhou. Major-Minor mean field game of stopping: an entropy regularization approach. *SIAM Journal on Control and Optimization*, forthcoming, 2026. (arXiv: 2501.08770)
- Zongxia Liang, Jianming Xia, and **Keyu Zhang**. Equilibrium stochastic control with implicitly defined objective functions. Major revision with *SCIENTIA SINICA Mathematica*. (arXiv: 2312.15173)
- Zongxia Liang, Xiang Yu and **Keyu Zhang**. Mean Field Game with Reflected Jump Diffusion Dynamics: A Linear Programming Approach. Submitted. (arXiv: 2508.20388)
- Yu-Jui Huang, Xiang Yu and **Keyu Zhang**. Policy Iteration Achieves Regularized Equilibrium under Time Inconsistency. Submitted. (arXiv: 2603.06145)

- Erhan Bayraktar, Zhenhua Wang, Xiang Yu, and **Keyu Zhang**. Equilibrium for Time-inconsistent Mean Field Games: A Systematic Analysis by Entropy Regularization. Submitted. (arXiv: 2605.14363)

TEACHING EXPERIENCES

- **Teaching Assistant**, Tsinghua University 2021 – 2024
- *Courses*: Calculus A1 (Fall 2021, 2022, 2023) and Calculus A2 (Spring 2022, 2023, 2024).

SKILLS

- **Languages**: Chinese, English.
- **Programming**: Python.

AWARDS

- **Outstanding Doctoral Thesis** (top 10%). Tsinghua University, 2026.
- **Outstanding Graduates** (top 4%). Tsinghua University, 2026.
- **THU Comprehensive Excellence Scholarship First Prize**. Tsinghua University, 2025.
- **THU Comprehensive Excellence Scholarship First Prize**. Tsinghua University, 2024.
- **THU Comprehensive Excellence Scholarship First Prize**. Tsinghua University, 2023.
- **THU Comprehensive Excellence Scholarship Second Prize**. Tsinghua University, 2022.
- **THU Excellent TA Awards**. Tsinghua University, 2021&2022.